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(54) MOBILE COMMUNICATIONS DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To allow a user of a mobile communications device to easily measure his or her stress level anywhere at any time or access relaxation information to reduce stresses by providing the communications device with the function of measuring stresses.

SOLUTION: A stress measuring means 102 of the mobile communications device 101 measures the user's stress level from his or her physiological data and provides the result using a display part or speaker of the device.

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CLAIMS

[Claim(s)]

[Claim 1] A stress measurement means to measure and guess the vital reaction which produces individual mental stress or an individual relaxed degree at the time of stress, The input means for making measurement operate it in said stress measurement means, A presentation means by which voice or an image shows information as a result of the stress degree from said stress measurement means, The pocket transmitter which it has the control means which controls a transceiver means to transmit and receive a sound signal and data, and said stress measurement means, said input means, said presentation means and transceiver means, and can measure a state of stress.

[Claim 2] A stress measurement means is a pocket transmitter according to claim 1 which measures stress or a relaxed degree by measuring a user's skin temperature.

[Claim 3] A stress judging means is the pocket transmitter of the publication according to claim 1 which measures stress or a relaxed degree by measuring an electric-impedance-of-skin value.

[Claim 4] A pocket transmitter given in claim 1 which considered the stress judging means as the removable configuration thru/or any 1 term of 3.

[Claim 5] A pocket transmitter given in claim 1 equipped with a storage means to memorize the relaxed information for canceling stress and making a relaxed state thru/or any 1 term of 4.

[Claim 6] A pocket transmitter given in claim 1 thru/or any 1 term of 5 connected with the radio means to the pin center,large server having a storage means to memorize the relaxed information for canceling stress and making a relaxed state.

[Claim 7] A storage means is a pocket transmitter given in claim 5 which memorized the information for making autogenic training perform to a user thru/or any 1 term of 6.

[Claim 8] A storage means is a pocket transmitter given in claim 5 which memorizes the telephone number or the e-mail address connected with those who can perform psychological counselor rings, such as counselor and a medical practitioner, and is shown to a user thru/or any 1 term of 7.

[Claim 9] A pocket transmitter given in claim 1 which considered the stress measurement means as the removable configuration thru/or any 1 term of 8.

[Claim 10] The program which makes a cellular phone perform all or some of pocket communication equipment of claim 1-9 given in any 1 term.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention] This invention gets to know stress or a relaxed state objective always anywhere simply and conveniently, and relates to the stress management equipment built-in pocket mold transmitter aiming at supporting stress control.

[0002]

[Description of the Prior Art] Increase of a citizen's stress in modern society, such as expansion of a social abrupt change or computerization and complication of human relations, is serious, and especially persons of middle or advanced age's suicide's rapid increase serves as a big social problem. Although stress is the reaction of the mind and body to the stimulus from the outside, it is known that continuation of the state of stress of excess will cause moral diseases, such as many lifestyle-related diseases and depression. Moreover, the fall of labor productivity -- the effectiveness of work out of which a motivation does not come does not increase -- is caused. On the other hand, stress is useful vital force origin and cannot be lost. The condition of its stress is got to know objective so that the state of stress of excess may not continue beyond the need, and health can be maintained by holding **** trained and relaxed. Then, cures, such as autogenic training and the biotechnology fee backing method, are used from the former.

[0003] In order for mind and body to evaluate a state of stress or a relaxed state objective, the measurement value of physiological change of contraction of the blood

vessel adjusted by the autonomic nerve, a heart rate, breathing, sweating, skin temperature, etc. can be used. The thing which stress of mind and body takes positively, such as appreciating the breathing method, relaxation music, and an image to a user, or making autogenic training perform to him using such measured value etc., is done, change of a relaxed state in the meantime is shown, and the biofeedback method has carried out training whose user himself makes a relaxed state. Although there is equipment for performing these from the former, it is very expensive, or with special equipment, an expert needs to treat and, generally it has not spread. Moreover, in order to know a RIRAKUSU condition freely simply for a short time, a thing given in JP,10-191291,A connects and measures the electrode terminal and computer of dedication, and tells a user about measured value.

[0004] However, these equipments need the instrument of dedication and cannot use it always anywhere freely. It is the time amount of going-out places, such as a park of a going-out place, or little clearance in electric commuter cars that people want to sense stress or to relax during a meeting in an office in many cases.

[0005] On the other hand, it is the cellular phone which it is compact, is not bulky and can be freely used for clearance time amount always anywhere. Recently, how not to be as a mere telephone and use [enjoy / transmission and reception, game, or music title of an electronic mail] is diversified, and it has spread quickly. When a computer spreads and goes out also during persons of middle or advanced age weak, there are many people who surely attach to the body.

[0006]

[Problem(s) to be Solved by the Invention] This invention solves such a technical problem, and a state of stress is measured secretly, without being noticed by the others man easy always anywhere, or it aims at offering Personal Digital Assistants, such as a cellular phone equipped with the equipment for making a relaxed state.

[0007]

[Means for Solving the Problem] In order that this invention may solve the above-mentioned technical problem, this invention measures a state of stress and a relaxed state with a pocket transmitter with always attaching [much] to the body, it looks at the information for relaxing further with a cellular phone, hears it, or receives relaxed information from an external server.

[0008] It is not bulky by making it a pocket transmitter and one apparatus, and is hard to forget also at the time of going out. Moreover, it is not noticed by the surrounding man, either but a state of stress can be measured secretly. And a user can know the degree of a state of stress objective always anywhere easily, can measure whether a relaxed state can be made and relaxed, cancels stress, and can do training which makes a relaxed state.

[0009]

[Embodiment of the Invention] A stress measurement means to measure and guess the vital reaction which produces individual mental stress or an individual relaxed

degree at the time of stress in a pocket transmitter according to claim 1. The input means for making measurement operate it, and a presentation means by which voice or an image shows information as a result of a stress degree. By having the control means which controls a transceiver means to transmit and receive a telephone signal and data, a stress measurement means and an input means, a presentation means, and a transceiver means. Since a state of stress can be measured with the pocket transmitter to which put on every day, and it walked around with and is used, it is not bulky, an objective stress degree is known always anywhere easily, and it is effective for stress management.

[0010] Since invention according to claim 2 is a stress measurement means to measure a user's skin temperature, it fits in a compact that what is necessary is just to attach a temperature sensor in a pocket transmitter as an appearance. Moreover, since measurement can do a fingertip only by touching the temperature sensor attached for the pocket transmitter, it is not noticed by the surrounding man, either but can measure in natural actuation.

[0011] Since invention according to claim 3 is a stress measurement means to measure the electric resistance of a user's finger, it fits in a compact that what is necessary is just to attach an electrode in a pocket transmitter as an appearance. Moreover, since measurement can do a fingertip only by touching the electrode attached for the pocket transmitter, it is not noticed by the surrounding man, either but can measure in natural actuation.

[0012] Invention according to claim 4 considers a stress judging means as a removable configuration. And a pocket transmitter becomes compacter when not using it. Moreover, the part of a stress judging can also be made into an option and stress measurement comes to be able to do the personal digital assistant machine already used easily.

[0013] Invention according to claim 5 can be equipped with a storage means to memorize the relaxed information for canceling and relaxing stress, and can admire it with a pocket transmitter. And it can relax always anywhere easily.

[0014] Invention according to claim 6 can memorize relaxed information to the pin center, large server tied with radio, and can be received and admired with the pocket transmitter of this invention. And more kinds of relaxed information can be prepared without being dependent on the capacity of the storage means of a cellular phone, and he is able for a user to choose only information needed and to receive out of it.

[0015] Since invention according to claim 7 memorizes and shows a user the information for making the autogenic training by which effectiveness is known as the relaxed approach of mind and body perform as relaxed information, it can cancel and relax stress effectively.

[0016] Invention according to claim 8 presents the telephone number or the e-mail address connected with counselor, a medical practitioner, etc. And when curing by the time when a stress degree is very high and its control cannot be performed, or the

man senses as the need, it can consult with a telephone or an electronic mail at any time using a pocket transmitter even from where, and it is very effective in mental health.

[0017] Invention according to claim 9 is a program which makes a computer perform all or some of pocket transmitter of claim 1-8 given in any 1 term. And since it is a program, the pocket transmitter of this invention is easily realizable using a general-purpose Personal Digital Assistant. Moreover, distribution and the install activity of a program can be simply performed by recording on a record medium or distributing a program using a communication line.

[0018]

[Example] The example of this invention is explained below, referring to a drawing.

[0019] (Example 1) Drawing 1 is the functional block diagram of the pocket transmitter in the 1st example of this invention. Moreover, drawing 2 is the external view of this pocket transmitter.

[0020] In drawing 1 the pocket transmitter 101 of this invention The information from the input means 103 and the stress measurement means 102 that the input for operating the stress measurement means 102 and the stress measurement means of measuring a user's psychological stress condition and relaxed state is performed A presentation means 104 to show, the text which guides a user's stress to a ***** relaxed state, An image, It consists of control means 107 which control the 1st storage means 105 which memorizes relaxed information, such as voice and music, a transceiver means 106 to transmit and receive a telephone signal and data, the input means 103, the stress measurement means 102, the presentation means 104, the storage means 105, and the transceiver means 106. The pin center,large server 108 furthermore connected with the wireless circuit with the transceiver means is equipped with the 2nd storage means 109 which memorizes relaxed information, such as a text which guides stress to a ***** relaxed state, an image, voice, and music.

[0021] The case where it is the cellular phone in which the pocket transmitter of the 1st example of this invention has electronic mail transmission and reception and an Internet connectivity function is explained by using drawing 2 for an example.

Personal Digital Assistants, such as PDA, are sufficient. The input means 103 are actuation keys which operate a cellular phone, such as a ten key and a cursor advance carbon button. What is necessary is to plan the physiology data which change by states of stress, such as blood pressure, a blood stream, and skin temperature, as a stress measurement means 102, and just to measure stress. Generally the approach of attaching an electrode to two or more fingers, planning electric resistance using an electric-impedance-of-skin value changing to the bottom of a mental stress situation, and measuring a stress degree is learned. Moreover, generally the method of presuming a state of stress by the contraction escape of a peripheral vessel using the temperature of a finger changing is similarly used by the state of stress. By this example, the stress measurement means 102 explains to an

example the case where electric impedance of the skin is measured. 102a is an electrode for measuring electric impedance of skin. 104a is a liquid crystal display for displaying directions of actuation for measurement, a measurement result, and the information for relaxation, and 104b is a loudspeaker. It uses with the display in the case of using as a cellular phone or an Internet terminal, or a loudspeaker in common.

[0022] Next, actuation is explained using the flow chart of drawing 3. A user pushes stress measurement power-source 103a of a cellular phone, and a control means 107 displays directions of measurement actuation on liquid crystal display 104a. A user carries two fingers for electrode 102a, respectively. The stress measurement means 102 measures potential, presumes a stress degree (step 1), and shows it to liquid crystal display 104a as a presentation means 104 (step 2). A stress degree may present a numeric value, an illustration, a color, etc. visually, and may be shown by voice, music, etc. from loudspeaker 104b. Next, a user recognizes a stress level objective and explains the case where a relaxation is tried. If a user directs a request of RIRAKKU information from the input means 103 according to the display of liquid crystal display 104a (step 3), a control means 107 will display the list of relaxed information on liquid crystal display 104a, leaving the display of a first-time stress level like drawing 4 (step 4). A user chooses a favorite thing from the input means 103 (step 5). Relaxed information is memorized by the 1st storage means of the body of a personal digital assistant, or the 2nd storage means prepared for the pin center, large server tied through the radio means. Since relaxed information is beforehand memorized by the 1st storage means and it is in it, it is convenient to spend the place and traffic whose communication link is impossible. When a user chooses the information memorized by the 2nd storage means, the information which request information is sent through a transceiver means and corresponds is transmitted. The requested information may be shown through means of communications, and after downloading and memorizing for the 1st storage means, it may be shown. Since it is displayed that what is memorized, the 1st storage section, i.e., body of a cellular phone, and the thing called by communication link from a SANTA server are distinguishable, it turns out whether a communication link tariff starts, and is convenience. As relaxed information, the advice text for relaxing, music, the image, the exercise animation, etc. are prepared. It is provided for a user with the presentation means corresponding to the informational contents (step).

[0023] This example explains autogenic training famous as an approach for relaxation as relaxed information to an example about presentation of relaxed information. Autogenic training is an approach of it having been developed by German psychiatrist Shultz, reproducing the condition of the body when relaxing intentionally, making a bodily relaxed state first, expecting the effect on the mentality, and making mind and body relaxing effectively.

[0024] It is in the condition which specifically closed the eye lightly, and the regular language (language formula) is recited like magic word. If a user chooses autogenic

training from relaxed information lists, since a language formula will be displayed on a liquid crystal display in order as follows, a user recites in an alignment just like that. "preparation : What suppresses the body in a quiet location loosens. So that it may progress to a degree, if the contents are felt about the language formula after "beginning then" [that the posture which can be relaxed is made ", and] It carries out, "a feeling "A frame is cool with a sufficient feeling ". "the feeling carried out calmly for a while [that it has settled down", -> biped with warm -> left arm with a heavy right arm is "heavy", "-> biped with warm -> left arm with a warm right arm being warm", "the heart having struck regularly calmly", "the breath being carried out comfortably automatically", the belly is "warm", and] let's taste" -- " -- termination: -- big elongation, expansion and contraction of both hands, etc. are carried out -- ". You may stop and end also while progressing to the last. If a user directs termination (step 7), it will return to the display of the stress level measured first. Although how to display a language formula on the original stress liquid crystal display in order was explained, since an eye is closed and it can concentrate if the approach of hearing voice from the loudspeaker or earphone of a cellular phone is taken, relaxed effectiveness is acquired more.

[0025] And in order to check whether it has relaxed, it measures with the stress measurement means 102 again (step 8), and the relaxed degree displayed on the screen is checked (step 9). A sense of accomplishment increases by the ability of a relaxed degree to be checked objective, and a relaxed state can be more effectively made now. Since signs that it relaxes if stress measurement is continued displaying relaxed information are known on real time, it becomes training which makes a relaxed state effectively.

[0026] As mentioned above, since the function to measure a stress degree and a relaxed degree to a cellular phone with having attached to the body every day in this example, and having put [much] at hand is prepared, when it is not bulky, it is easy to treat and it plans where always, it can use, and everyday stress control can be performed effectively. A personal computer and a special instrument are unnecessary, and since all actuation can be performed with the cellular phone to which it is used every day, it is easy to employ a young generation from the first also in the generation more than a child or persons of middle or advanced age.

[0027] A temperature sensor and an electrode are attached in the body of a cellular phone, and since a stress degree is presumed by measuring the skin temperature of a finger, and the electric resistance of a finger, the equipment which is not bulky and does not have sense of incongruity as a telephone can be offered. Moreover, since the actuation at the time of measurement by the user also only touches a finger and a hand, the inside of a vehicle can also measure easily to a surrounding man during a going-out place and work at restorative *****.

[0028] Since the information for canceling and relaxing stress can be seen with a cellular phone or can be heard, it can relax always anywhere easily. Since relaxed

information shares and offers the display and the voice output section of a cellular phone, compared with the case where a display, a loudspeaker, etc. of dedication are formed, small equipment can be offered by low cost for relaxed information presentation.

[0029] Moreover, from a pin center, large server, it can receive, or relaxed information can be downloaded using the data transceiver function of a cellular phone, and can be chosen from more information. Distribution of the relaxed contents which were substantial when using the cellular phone of broadband correspondence is also attained. Moreover, since only the information which the user could access always new relaxed information by updating a pin center, large server's information, and was pleasing can be seen or it can download, it is very convenient. Since a relaxed state can be measured also during use after using relaxed information or, compact and easy biotechnology FODO back equipment can be realized, and stress can be canceled with pleasure.

[0030] Moreover, in this example, since the information to which at least one person can practice autogenic training in which a track record has evaluation highly very much as relaxed information is shown, a relaxation can be experienced always anywhere. Although it is necessary to practice autogenic training several times on the 1st, training is possible for a going-out place or little idle time, and progress becomes early.

[0031] (Example 2) The point that the personal digital assistant in the example 2 of this invention differs from other examples is a point which memorizes the telephone number or the e-mail address connected with those who can counsel the 2nd storage means a psychological counselor, a medical practitioner, a public health nurse, etc., and is shown according to the request from a user. It enables it to correspond, also when stress of excess cannot continue for a long period of time or cannot relax by itself by the strong state of stress. When it senses that consciousness was daily turned to its state of stress, and it became impossible to control by oneself by using such equipment, it can avoid becoming too late by consulting with an expert on that spot immediately. Since the function is prepared especially in the cellular phone, even if it does not carry out troublesome actuation, a direct dial can be carried out, or e-mail can be consulted according to a delivery direct individual using the electronic mail function of a cellular phone. Using a cellular phone further with an image transceiver function with a camera can receive counseling by confrontation with counselor, and sense of security and sense of reliability are effective in increase and mental health.

[0032] (Example 3) Drawing 5 is the external view of the 3rd example of this invention. The point that an example 2 differs from an example 1 is a point which made stress measurement power-source 103a and electrode 102a the removable cellular phone. Since it is the same as that of an example 1, other configurations and actuation are omitted. In this example, by making a removable configuration the part in connection

with stress measurement, when unnecessary, it can remove, or it can also attach and use for the cellular phone which made the option and was already purchased. In that case, what is necessary is just to enable it to download the software for measurement from a pin center,large server.

[0033]

[Effect of the Invention] As mentioned above, according to this invention, since the personal digital assistant with which a user always puts on and walks around is used, it is not bulky, and a stress degree and a relaxed degree can be known always anywhere nonchalantly. Since it furthermore relaxes, stress can be effectively canceled and relaxed by admiring information easily on that spot. It is very effective in the improvement of the mental health of stress society.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] The block diagram of the pocket transmitter in the example 1 of this invention

[Drawing 2] The external view in the example 1 of this invention

[Drawing 3] The flow chart which shows the actuation in the example 1 of this invention

[Drawing 4] Drawing showing the contents of presentation in the example 1 of this invention

[Drawing 5] The external view in the example 3 of this invention

[Description of Notations]

101 Pocket Transmitter

102 Stress Measurement Means

103 Input Means

104 Presentation Means

105 First Storage Means

106 Transceiver Means

107 Control Means

108 Pin Center,large Server

109 2nd Storage Means
